

INITIAL REVIEW EXPOSURE REPORT (IRExR)**Chemical ID: P-18-0152****Reviewer: Mottl/ND****Results Table: Dose, Concentration, and Days Exceeded Results Summary**

Exposure Scenario ¹	Water						Landfill	Stack Air		Fugitive Air	
Release activity(ies) ² ; exposure calculation(s) ³	Drinking Water		Fish Ingestion		7Q10 ⁴ CC = 3	PDM Days Exceeded	LADD	ADR (24-hr conc.)	LADD (Annual conc.)	ADR (24-hr conc.)	LADD (Annual conc.)
	ADR	LADD	ADR	LADD							
	mg/kg/day	mg/kg/day	mg/kg/day	mg/kg/day	µg/l	# Days	mg/kg/day	mg/kg/day (µg/m ³)	mg/kg/day (µg/m ³)	mg/kg/day (µg/m ³)	mg/kg/day (µg/m ³)
USE:Max ADR: max acute eco	5.12e-6	—	1.99e-7	—	1.80e-1	—	—	— (—)	— (—)	— (—)	— (—)
USE:PDM	—	—	—	—	1.80e-1	—	—	— (—)	— (—)	— (—)	— (—)
USE:Max LADD	—	2.58e-8	—	1.86e-10	—	—	1.09e-5	— (—)	— (—)	— (—)	— (—)

¹ Exposure scenario titles consist of release activity followed by exposure calculation abbreviation.² Release activities are from engineering report's Manufacturing (Mfg), Processing (Proc) and Use release activity labels.

Multiple release activities are combined in one exposure scenario if their releases occur at same location.

³ Exposure calculations are Acute Dose Rate (ADR), Lifetime Average Daily Dose (LADD), and Probabilistic Dilution Model (PDM).

There may be one, two, or all three exposure calculations per exposure scenario. CC is the aquatic concentration of concern.

⁴ This column displays concentration values for the 7Q10 streamflow, which is defined as the average daily streamflow of the seven consecutive days of lowest flow within a ten year period.**Remarks: MFG – all releases below modeling threshold****USE –**

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0152

Assessor: Mottl/ND

ENVIRONMENTAL RELEASES

Scenario#:1

Number of Release Sites: 1

Release Activity: USE:Max ADR

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
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Total Releases:

1	1	1	1	1
(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)

Non-sludge/Sludge

Release Days/yr:

365	365	365	365
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Per Site Release:

1	1	1	1
(kg/site/day)	(kg/site/day)	(kg/site/day)	(kg/site/day)

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0152

SITE-SPECIFIC HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO NUMBER:1

RELEASE ACTIVITY: USE:Max ADR

FACILITY NAME:

FACILITY LOCATION:

RECEIVING WATER NAME:

REACH NUMBER: 02040201004

FACILITY ON REACH: Yes DISCHARGE TYPE: Direct

NPDES PERMIT #:

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER

FLOW DESCRIPTOR	Harmonic Mean	30Q5	7Q10	1Q10	PLANT
FLOW (MLD)	1.95E+04	8214.97	6011.49	4798.16	NA
CONCENTRATION (µg/L)	5.70E-02	0.14	0.18	0.23	NA

DRINKING WATER INGESTION AND FISH INGESTION EXPOSURE ESTIMATES

Exposure Units	Drinking Water Results	Drinking Water Units	Fish Ingestion Results	Fish Ingestion Units
Cancer				
LADD _{pot}	2.58E-08 mg/kg/day		1.86E-10 mg/kg/day	
LADC _{pot}	1.98E-06 mg/L		1.98E-06 mg/kg	
Acute				
ADR _{pot}	5.12E-06 mg/kg/day		1.99E-07	mg/kg/day

Surface Water Comments:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0152

Assessor: Mottl/ND

ENVIRONMENTAL RELEASES

Scenario#:2

Number of Release Sites: 1

Release Activity: USE:PDM

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
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Total Releases:

1	1	1	1	1
(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)

Non-sludge/Sludge

Release Days/yr:

365	365	365	365
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Per Site Release:

1	1	1	1
(kg/site/day)	(kg/site/day)	(kg/site/day)	(kg/site/day)

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0152

SITE-SPECIFIC HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO NUMBER:2

RELEASE ACTIVITY: USE:PDM

FACILITY NAME:

FACILITY LOCATION:

RECEIVING WATER NAME:

REACH NUMBER: 02040201004

FACILITY ON REACH: Yes DISCHARGE TYPE: Direct

NPDES PERMIT #:

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER

FLOW DESCRIPTOR	Harmonic Mean	30Q5	7Q10	1Q10	PLANT
FLOW (MLD)	1.95E+04	8214.97	6011.49	4798.16	NA
CONCENTRATION (µg/L)	5.70E-02	0.14	0.18	0.23	NA

DRINKING WATER INGESTION AND FISH INGESTION EXPOSURE ESTIMATES

Exposure Units	Drinking Water Results	Drinking Water Units	Fish Ingestion Results	Fish Ingestion Units
Cancer				
LADD _{pot}	2.58E-08	mg/kg/day	1.86E-10	mg/kg/day
LADC _{pot}	1.98E-06	mg/L	1.98E-06	mg/kg
Acute				
ADR _{pot}	5.12E-06	mg/kg/day	1.99E-07	mg/kg/day

Surface Water Comments:

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Chemical ID: P-18-0152

SITE-SPECIFIC HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO NUMBER: 2

RELEASE ACTIVITY: USE:PDM

FACILITY NAME: [REDACTED]

FACILITY LOCATION: [REDACTED]

RECEIVING STREAM NAME: [REDACTED]

REACH NUMBER: 02040201004

FACILITY ON REACH: Yes

DISCHARGE TYPE: Direct

NPDES PERMIT NUMBER: [REDACTED]

GAGING STATION ID: N/A

GAGING STATION

GAGING STATION

NUMBER OF STATIONS ON

PERIOD OF RECORD: N/A

NUMBER OF

REACH: [REDACTED]

OBSERVATIONS: [REDACTED]

MEAN FLOW (MLD): 3.28E+04

7q10 FLOW (MLD): 6011.49

EFFLUENT FLOW (MLD):12.26

RESULTS

COC (µg/L)	Percent of Year COC Exceeded	Number of Days COC Exceeded	Release days/year	Pre-treatment Loading (kg/site/day)	Waste Water Treatment (%)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0152

Assessor: Mottl/ND

ENVIRONMENTAL RELEASES

Scenario#:3

Number of Release Sites: 1

Release Activity: USE:Max LADD

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
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Total Releases:

1	1	1	1	1
(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)

Non-sludge/Sludge

Release Days/yr:

365	365	365	365
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Per Site Release:

1	1	1	1
(kg/site/day)	(kg/site/day)	(kg/site/day)	(kg/site/day)

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0152

SITE-SPECIFIC HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO NUMBER:3

RELEASE ACTIVITY: USE:Max LADD

FACILITY NAME: [REDACTED]

FACILITY LOCATION: [REDACTED]

RECEIVING WATER NAME: [REDACTED]

REACH NUMBER: 02040201004

FACILITY ON REACH: Yes DISCHARGE TYPE: Direct

NPDES PERMIT #: [REDACTED]

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER

FLOW DESCRIPTOR	Harmonic Mean	30Q5	7Q10	1Q10	PLANT
FLOW (MLD)	1.95E+04	8214.97	6011.49	4798.16	NA
CONCENTRATION (µg/L)	N/A	N/A	N/A	N/A	NA

DRINKING WATER INGESTION AND FISH INGESTION EXPOSURE ESTIMATES

Exposure Units	Drinking Water Results	Drinking Water Units	Fish Ingestion Results	Fish Ingestion Units
Cancer				
LADD _{pot}	2.58E-08	mg/kg/day	1.86E-10	mg/kg/day
LADC _{pot}	1.98E-06	mg/L	1.98E-06	mg/kg
Acute				
ADR _{pot}	N/A	mg/kg/day	N/A	mg/kg/day

Surface Water Comments:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0152

DRINKING WATER EXPOSURE ESTIMATES FROM LANDFILL RELEASES

SCENARIO #: 3

ACTIVITY: USE:Max LADD

RELEASE DESCRIPTION:

EXPOSED POPULATION: Adult

NUMBER OF SITES	NON-SLUDGE LANDFILL RELEASE AND DAYS OF RELEASE (kg/site/day)/(days)	LANDFILLED SLUDGE ¹ AND DAYS OF RELEASE (kg/site/day)/(days)	MIGRATION DESCRIPTOR ²	ADSORPTION TO WASTEWATER SLUDGE (%)	DRINKING WATER TREATMENT (%)
1	1	1	1	1	1

¹ Landfilled sludge equals the fraction adsorbed to wastewater treatment sludge times the surface water pre-treatment release.

Migration Descriptor	Log Koc	Groundwater Concentration (GWC) (mg/L per kg release)
Negligible	no migration	None
Negligible to slow	> 4.5	3.21E-6
Slow	<4.5 to 3.5	2.67E-5
Moderate	<3.5 to 2.5	5.95E-5
Rapid	<2.5	7.55E-5

Exposure Units	Results	ASSUMPTIONS			
		ED (years)	AT (years)	BW (kg)	IR (L/day)
Cancer					
LADD _{pot} (mg/kg/day)	1.09E-05	33.00	78.00	80.00	1.04
LADC _{pot} (mg/L)	8.38E-04	33.00	78.00	NA	NA

REMARKS: